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UNCERTAINTY, POTENTIAL POWER AND NONDECISIONS*

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ABSTRACT

This paper deals with four questions about the potential power of A over B with respect to X: (1) Can it be defined unambiguously? (2) Is its base inert? (3) Is it a unidimensional attribute of A and, if not, what sense does it make to talk about "power structures?" (4) Does it lead to spurious inferences about power? Potential power, what A could do to B if B did not do X and A cared enough about X, is defined more exactly in part i. In part ii it is (experimentally) shown that the base of A's power is not inert: B's perceptions of A's potential power have an effect that does not depend on A expressing preferences, promising rewards, or threatening penalties. This is true even if B has no prior knowledge of the probability that A rewards compliance or penalizes noncompliance. In fact, if it is possible to do nothing (to nondecide) it is true even if B does not know A's preferences. In part iii, it is shown that potential power, like actual power, is a multidimensional relation. Therefore, with respect to observable compliance it is, like actual power, impermanent, issue-specific, and partially-ordered. With respect to power-dependence relations that underlie acts, however, although such relations are also multidimensional and only partially-ordered, they are relatively stable and general (not issue-specific) and it therefore makes sense to talk about "power structures" and to construct more complex systems out of them. This does not lead to spurious inferences made from false perceptions of potential power if (and only if) ad hoc explanation of power's effects is given up in favor of a systematic theoretical approach.

Introduction

Every collective choice among k alternatives has a k+1th alternative, to do nothing, called a nondecision. (See Bachrach and Baratz, 1962; 1963; 1970; but cf. also Dahl, 1957, pp. 209-10.) Any choice between X and Y is really a choice between X and Y and not making a choice, O. This is frequently unnoticed because choices are decomposable into two parts, decisions (made between X and Y) and metadecisions (made between ©X or Y° and O) (cf. Zelditch, et al, 1983). The House debates school prayer; its Rules Committee decides whether to debate it or not. Often, as in this example, the analytic distinction between decisions and metadecisions is also an empirical distinction between stages of the policy process: Metadecisions are part of the predecision politics of an issue. Because they are more salient, decisions get noticed, metadecisions do not. But also, metadecisions arise in two ways: They can be made explicitly, by deciding not to decide an issue; or they can be made implicitly, by not deciding to decide. The House Rules Committee may vote on whether or not to take up school prayer in 1983; it may simply neglect to take up a long-range energy policy. It is implicit metadecisions that are especially likely to go unnoticed; but Bachrach and Baratz (1962) have argued that they have special features that make them important for the study of the less visible aspects of power.

The less visible aspects of power are those that do not depend on its actual exercise: B complies with known or inferred preferences of A without A overtly expressing them, promising any inducements, or threatening any penalties. They arise in the first instance from the "law of anticipated reactions" (Friedrich, 1963; Ford, 1981). Sentries rarely fire their weapons; most people anticipate them and choose a course of action that makes it unnecessary. But implicit nondecisions extend the scope of invisible power further because they do not require that B know or even infer A's preferences. B does not have to know A's preferences because nondecisions do not reveal his own. Decisions are visible contests: By choosing X, B publicly commits himself to one alternative, publicly rejects the other. To comply with A's preferences, B must therefore know or infer them. To do nothing is safe whatever A's preferences. All it does is to give to A a decisive role in determining the group's agenda. If A is in favor of deciding an issue, B incurs no penalty by not raising it first. If A is against deciding the issue, B is rewarded for doing nothing by the penalty foregone. None of this depends on A's actual intentions. A may in fact not be aware that B is making such choices. They depend not on intentions but on the sheer existence of a power structure, on potential rather than actual power.

Potential power is an essential tool for the analysis of the less visible aspects of power. We take it to refer to what one actor, A could do to overcome the resistence of another, B, if B did

not comply with A's wish that B do something, say X, if A's preferences for X were sufficiently intense. This, in turn, we take to refer to the base of A's power over B, meaning the resources possessed by A that are instrumental to goals valued by B. Potential power, power as a capacity, is what Weber meant by power (1947, p. 152). It is what most sociologists of power since Weber have meant by it (for example, Bierstedt, 1950; Gamson, 1968; Goldhammer and Shils, 1939; Hunter, 1953; Mills, 1956; Wrong, 1968; 1979). It is also what a wide range of social psychologists have meant by it, from field theorists (Cartwright, 1959; Wolfe, 1959) to subjective-expected-utility theorists (Tedeschi, et al, 1973), to even some behaviorists (Emerson, 1972). It plays an essential role in some decision theories (Harsanyi, 1962; Karlsson, 1961). It has become increasingly prevalent in political science (Alker, 1973; Pollard and Mitchell, 1972; Nagel, 1968; 1975; Wagner, 1969). It is nevertheless a controversial concept. A whole generation of behavioral political scientists has vigorously objected to it. (See especially Dahl, 1957; 1958; 1961; Kornberg and Perry, 1966; Polsby, 1980.)

The objections are that (1) potential power is an ambiguous concept; (2) if it is identified with the base of power it can have no effect because the base, by itself, is inert; and (3) it implies that power is a unidimensional attribute, which is contradicted by observation -- a feature that can be removed (by making power subjective) but only at the expense of a paradox (of "false belief").

The present paper argues that potential power can be precisely defined, that it has an observable effect that is independent of actual power, and that it is neither a unidimensional attribute nor paradoxical. This argument is divided into three parts. The objective of part i is to define potential power. Its ambiguities derive in part from confusing distinct processes, each referred to as "power," and in part from a poverty of vocabulary for several distinct ideas uncovered by deeper analysis of "potential." Part i is tedious, it will be tiresome to anyone familiar with the subject, but it is inescapable if we are to accomplish the objectives of parts ii and iii. The objective of part ii is to test two hypotheses about the relation between the base and amount of A's power when, holding scope and domain constant, the base varies but A exerts no overt power over B. The findings reported in part ii justify the assumption that potential power has an effect that is independent of actual power. Part iii studies the implications of a theory of potential power in more detail. If one is willing to accept some very reasonable assumptions (explanation as a goal, a distinction between observable acts of compliance or noncompliance and underlying power-dependence relations, a place for objective as well as subjective potential power), it can be shown that potential power is a multi-dimensional relation but can still be sensibly talked about as a "structure" without the paradox of false belief.

I. What is Potential Power?

Few theories of power have been able to escape the fact that in explaining compliance by B, the resources of A play an essential role. This leads most theories quite naturally to a concept of potential power. But different theories have nevertheless meant a number of different things by it. The ambiguity of potential power has to do in part with the ambiguities of "potential": Hunter (1953) uses it to mean possible power, the total quantity of resources possessed by A; Gamson (1968) uses it to mean usable power, the quantity of A's resources ready for use; Wrong (1968) argues it should refer to latent power, which is based on B's beliefs about what A could do if it were important enough to A; Harsanyi (1962) uses it to refer to the rate at which x increases with a unit increase in y, where x might be the scope, domain, or amount of A's power and y might be the base or the exercise of A's power -- hence, to refer to the derivative of a function or what he calls power in the schedule sense; Nagel (1975) uses it to refer to one of these rates, the rate of change in the amount of A's power over B.

But the ambiguities of "potential" are multiplied by those of "power". "Power" has so many difficulties that some investigators (most importantly March, 1966 and Riker, 1964) prefer to abandon it altogether. It is the ambiguities of "power" more than the ambiguities of "potential" that make many inferences about potential power doubtful, and it is these that must be dealt with first of all.

However, at least since Harsanyi (1962), a surprising amount of agreement has emerged that whatever it is, power is a relation the adequate description of which must refer to:

(1) the bases of power (the bases of A's power over B are the resources possessed by A that are instrumental to the goals of B);

(2) the means of power (the ways in which A uses these resources to change the behavior of B);

(3) the strength of power (the costs to B if B does not comply with demands by A);

(4) the costs of power (the costs to A of having to exercise power over B);

(5) the amount of power (the extent to which A is able to get B to do something that B would not otherwise have done);

(6) the scope of power (the acts with respect to which the amount of A's power over B is greater than 0); and

(7) the domain of power (the persons over whom the amount of A's power is greater than 0).

The disagreement is over which of these is power and what kinds of base, means, costs, and particularly compliance the word covers.

The predominant practice since Simon (1953) is to treat the effects of power as "power" and to cover by the one word a whole family of concepts describing the effects of all the human causes of human conduct. Force, power, influence, authority, and manipulation all have a strong family resemblance to each other, and Dahl (1957),

March (1955), Nagel (1975) and Simon (1953) have all treated them as one unitary process. French and Raven (1959) pointed out important ways in which the dynamics of different kinds of "power" differ and March (1966) has shown compellingly that treating them all as one unitary process leads only to a dead end. But the causal analysis of power has been unable to shake the tradition that treats it as one process.

In the present paper, what we have to say about potential power is about power in the sense of unwilling compliance, compliance caused by the promise of (external) reward or the threat of (external) penalty. We do not believe that power can be treated as one unitary process, and arguments about "potential" power do not apply to other kinds of power.

The laws of force, for example, differ in a fundamental way from the laws governing power. In using force, A does not require B to choose between compliance or noncompliance. A kills B, imprisons B, drags B, wrestles B to the ground, but does not require a choice by B. No one asked, told, expected, or in any other way gave B an opportunity to do otherwise. Threat of force requires a choice, but threat of force is a different process (cf. Goode, 1972). A threat may be futile if B has decided to die for a cause and may not accomplish its purpose. Actual force will accomplish its purpose whether B chooses to comply or not. It simply removes B as a factor opposed to A's wishes, as a chess player takes a pawn from the board. It is therefore worth distinguishing those rules of

strategy that depend on psychology, where power is essential, from those that depend only on outmaneuvering or overcoming opposite forces, where giving no choice is the whole point. These differences make it meaningless to talk about potential force except as threat of force.

Like force, manipulation does not require that B choose between complying or not complying with the wishes of A. A may control B by controlling the information at B's disposal or by preventing certain choices from being open to B. In some sense, B may be said to make choices (hence the difference from force), but A is not requiring B to choose between compliance and noncompliance. He is controlling the conditions that govern how B analyzes the choice to be made. While manipulation depends on the control of resources, its analysis has little use for a concept of potential power; it is only manipulation in use that matters.

Power, influence, and authority all involve a choice by B between compliance or noncompliance. But in the case of power, B is induced to do X by a promise of reward for compliance or coerced to do X by threat of a penalty for noncompliance. Both rewards and penalties are external to the actor. They make no internal change, no change in the actor's state of mind; B does not change his views privately, even if he conforms publicly (cf. Festinger, 1953). Influence, on the other hand, persuades B that X is right according to B's own interests, hence B complies privately as well as publicly. Compliance is willing in the case of influence, unwilling

in the case of power. If compliance were not observable to A, B would still comply in the case of influence but would not in the case of power. (Hence, power is highly dependent on observability but influence is not. See French and Raven, 1959; Kelman, 1958.) Authority differs from both: Following Barnard (1938), we take authority to refer to a claim by A, accepted by B, that A has a legitimate right to expect compliance by B, independently of B's own preferences. It differs from influence because B does not, or at least is not supposed to, examine his own preferences. Whether B likes or does not like X is not relevant. It differs from power in that B is expected to, and if he accepts A's authority does, comply because it is right, not because it is expedient. Weber (1947) pointed out that some people obey authority because it is right but some because it is expedient. For the latter, that others accept A's legitimacy means that A is capable of assembling resources sufficient to exercise (pure) power over B. Any concrete authority structure, therefore, involves both authority and power. But concrete sturctures are one thing, analytic concepts of authority another. For analytic purposes it is important to distinguish power from authority. If B accepts A's legitimate authority, then B complies with A's commands whether compliance is observable to A or not. Furthermore, the power that legitimate authority makes possible has different effects because it is legitimate. Power exercised outside the scope of legitimate authority creates resistance, but power exercised inside the scope of legitimate

authority does not (cf. Michener and Burt, 1975).

The arguments we make in defense of "potential power" apply well to power in the sense of unwilling compliance produced by the promise of reward or the threat of penalty. The promise or threat of what A could do, if B did not comply and if X mattered to A, makes good sense to "power" used in this way. But it does not make much sense if one means influence or authority. Thus, careful limits must be placed on the scope of the argument.

French and Raven (1959) also distinguish reward from punishment, hence inducement from coercion. And the arguments for doing so are as strong as the argument for distinguishing power from influence. It may seem arbitrary that we do not follow them here. There are important differences in the effects of rewards, as distinct from penalties, on B's resistance to A's power. Nevertheless, they are so indissolubly connected that it is even more arbitrary to treat them as different processes. A reward foregone is a penalty and a penalty foregone is a reward. Hence, withholding a reward is equivalent to imposing a penalty and withholding a penalty is equivalent to giving a reward. In order to distinguish the two, one would have to be able to separate giving something from withholding something. This might be possible in principle, but not in the case of power. Power depends on the contingency of sanctions, i.e., A must be able to give or withhold something, depending on whether B does or does not comply. One cannot have one without the other.

By the amount of A's power over B, therefore, we refer to the extent to which A is able to get B to do something that B is unwilling to do. The means of power refer to (1) giving or promising to give rewards; (2) imposing or threatening to impose penalties; (3) withholding or threatening to withhold rewards; or (4) withholding or promising to withhold penalties. The strength of A's power refers to the utility (i.e., the subjective value) of the penalties threatened. The costs refer to the depletion of A's resources by giving rewards or imposing penalties together with the prospects of future costs due to increasing or decreasing unwillingness of B to do X (penalties being more costly than rewards). The bases of A's power over B can be any resources instrumental to the goals of B if and only if their transfer can be made contingent on compliance by B. The scope of A's power covers all acts with respect to which the amount of A's power over B is greater than 0; the domain, all the persons over whom the amount of A's power is greater than 0.

The difficulties of "power" arise from confusing different processes. Those of "potential" arise from the proliferation of referents produced by a deeper analysis of the causes of compliance. (See especially Gamson, 1968; Harsanyi, 1962; Wrong, 1968.) It is important to distinguish the objective from the subjective, the total from the usable, the point from the schedule senses of "potential power" but impossible to insist on any one of them as the only meaning of "potential." The impoverished vocabulary of power

has stretched its only available term over too many ideas, all of which are necessary to an adequate theory of power. The present paper, however, needs only two of them: (1) the objective base of A's power, i.e., given that B values G, the stock of resources possessed by A that an outside observer believes is instrumental to G; and (2) perceived potential power, i.e., the subjective beliefs of B about what A could do if it were important enough to A.

II. Is the Base of Power Inert?

A. Hypotheses

In a famous dialogue between actual and potential power, Dahl argued that what we want to know is the extent to which A gets B to do something B would not otherwise do. Knowing the stock of resources possessed by A is not sufficient because individuals differ in the intensity of their preferences for X and A's use of these resources varies with the intensity of his preferences. A may be rich but not use his wealth; influential but not use his influence. His interests may lie elsewhere. (Dahl, 1961, ch. 24.)

This argument assumes that the base of A's power is inert. It has an effect on B if and only if used. Dahl has never actually constructed a theory of power, but implicit in his argument is a model of power-dependence relations which, even if it employs the base of A's power in an essential way, attributes all of the effect of the base to one intervening variable, the actual use of A's resources (hence, to "actual" power).

There are alternative formulations, of course, that hold that the base itself is active. Friedrich (1963) and others (e.g. Nagel, 1968; 1975; Oppenheim, 1958; Wrong, 1968) have argued that through the "law of anticipated reactions" A has an effect on B that does not depend on A's overt exercise of power. B governs his conduct by anticipating in advance what A would do if B did not comply with the (known) wishes of A.

There are a number of ways in which B might know A's preferences and the probability that A will reward compliance and penalize noncompliance. These include: (1) past experience with A; (2) past experience with others like A; (3) past experience of others with A reported to B; or (4) cultural tradition passed on to B about people like A. It is the fertile number of these possibilities that opens up the question whether A must promise rewards and/or threaten penalties each time a choice in A's interests faces B. In a world with a past and a future there is a strong possibility that B can anticipate what A will do without A having to tell B either what he wants or what he will do if B does not comply. B is able to rehearse in advance what A will do if B does X and what A will do if B does not do X. Net of the overt power of A over B there is therefore an effect, through B's anticipations of A's preferences and sanctions, which is covert.

But by itself this is not the strongest possible case for potential power. The argument depends on B knowing what A would do.

Potential power is a matter of knowing what A could do. B might well know A's preferences without knowing the probability that A will reward compliance and/or penalize noncompliance. B might not even know A's preferences. There are still at least two strong arguments for supposing that the base of A's power will have a covert effect on B, an effect that does not depend on A expressing preferences, promising rewards, or threatening penalties.

One of these arguments, deriving from the theory of subjective expected utility, has to do with how B subjectively infers the probabilities that A rewards compliance and penalizes noncompliance when B knows A's preferences. In the face of uncertainty about his risks, the guesses that B hazards obey certain heuristic principles (reviewed by Tversky and Kahneman, 1974) the most important of which for present purposes are representativeness, i.e., conjectures based on the kind of person A is (Kahneman and Tversky, 1973), and causality, i.e., conjectures about the causes and conditions of A's behavior (Tversky and Kahneman, 1982). A quite reasonable hypothesis based on these principles is that B will infer that A will sanction noncompliance with a probability proportional to the intensity of A's preferences. Common-sense assumptions about the conditions of power should also make this probability directly proportional to A's potential power.

If B does not know even A's preferences, the principles of representativeness and causality still permit plausible inferences about the behavior to be anticipated from A. It is likely that well

before Marx the Western man-in-the-street already believed in common-sense causal schemas in which objective interests were determinants of action. Whether justified by fact or not, such common-sense causal schemas permit inferences about A's preferences providing one knows something about A's objective interests. ("Objective" in this case refers not to an outside observer's analysis but to B's knowledge of A's situation.) From such knowledge, calculations (however limited by bounded rationality) are possible of A's prospective gains and losses. It is reasonable to conjecture that, in B's eyes, the intensity of A's preferences is proportional to these gains and losses. Once given, such inferences can be made the basis, in turn, for estimates about the probabilities of rewards and penalties.

The other of these arguments, deriving from the theory of decisions under uncertainty, makes even stronger assumptions with even weaker givens. B will often be unable to calculate the intensity, or even direction, of A's preferences and therefore have no idea of the rewards or penalties for doing X. A graduate student, for example, will often have a good deal at stake in a graduate course without, in the early stages of the course, knowing what the professor thinks, in particular instances, are the "right" ideas to have. If it is possible to do nothing, O is the safe response: It is the behavior that minimizes the likelihood of the worst that A could do if what you did did not satisfy A. Under conditions of uncertainty, B faces three possible gambles: Without knowing

whether A prefers X or Y (1) do X, with a possible reward of R if A prefers X but a possible loss of P if A prefers Y; (2) do Y with a possible reward of R if A prefers Y but a possible loss of P if A prefers X; (3) do nothing, with a certain loss of R but certainly foregoing P. As P increases (whatever R), uncertainty should drive B in the direction of minimizing the probability that the worst might happen to him by increasing the rate of nondecision. Because interaction is repeated, not a static event, there is the added possibility of later complying with A's preferences if they reveal themselves.

The law of anticipated reactions has been tested (and supported) by a separate experiment reported elsewhere (Ford, 1981). The present paper is concerned less with what A would do than with what A could do: Even if the base of A's power is not inert when B knows what A would do if B did X, it is possible that it is inert when B is uncertain about A's preferences and/or sanctions. The arguments of the previous three paragraphs, however, suggest ways in which what A could do has an effect, independently of the overt exercise of power, that does not depend on B's knowledge of A's preferences or the probability of reward for compliance or penalty for noncompliance. They lead first of all to the hypothesis that:

> Hypothesis 1. (Uncertain Sanctions) If B knows A's preferences but not the probability of reward for compliance or penalty for noncompliance, compliance with A's preferences is directly proportional to B's perception of A's potential power.

This follows from the hypothesis that B infers A's reactions in part from A's potential power; and if not, it is still the minimax solution to uncertainty. The same arguments lead to a second hypothesis, that if it is possible to do nothing,

> Hypothesis 2. (Uncertain Preferences) If B does not know A's preferences, the rate of nondecisions is directly proportional to B's perception of A's potential power.

This follows from the hypothesis that B infers A's reactions in part from his interests, if these correlate with A's power (as is argued by Bachrach and Baratz, 1962; 1963; 1970; and by Schattschneider, 1960); and if not, that under uncertainty nondecisions minimize the probability that the worst can happen to B.

B. The methodological problems of the study of nondecisions.

A test of hypothesis 2 depends on observing nondecisions. Unfortunately, nondecisions present serious methodological problems. (cf. Frey, 1971; Merleman, 1968; Polsby, 1980, ch. 11; Wolfinger, 1971.) These arise from the fact that there are an infinite number of things a group does not decide, only some of which can be called "issues" in the sense that some member of the group prefers an alternative that is not on its agenda. Bachrach and Baratz (1962; 1963; 1970) who founded the subject, provided no generally accepted criterion of issueness, i.e., no acceptable line of demarcation between suppressed issues and matters of no interest to anyone. Crenson (1971) and Smith (1979) overcame this objection by a

comparative method. This method depended on the argument that, comparing otherwise similar groups, a variable X can be said to cause a nondecision if and only if issue Y is present when X is absent. But the conditions required by such a comparison are difficult to satisfy: Crenson was able to argue that pollution levels were known in the 51 communities he studied because the government publishes such data; Smith was able to argue that absence of a referendum on fluoridation in New York was meaningful because the state left fluoridation to local option. But not all issues come this nicely framed. Even when they do, it is difficult to achieve the required level of control over confounding factors. Polsby (1980, ch. 11), for example, objects to Crenson's conclusion (that concentration of industrial ownership makes debate over air pollution less likely) because Crenson does not control for the rival hypothesis that it makes jobs more important than pollution to workers, who therefore have no interest in air pollution ordinances. (That this may also be a nondecision argument does not make the problem of method less serious.)

The required level of measurement and control is more readily achieved by experimental methods: We will create an issue of equality of opportunity in a laboratory and observe whether the issue does nor does not emerge in control groups. If it does, we will argue that the same issue is also present in treatment groups of the experiment even if it does not emerge into the open in them.

This method is, of course, peculiarly suited to uncertainty

about preferences and is unnecessary for uncertainty about sanctions. Uncertain sanctions, because preferences are known, do not require nondecision. Nevertheless, we will use nondecisionmaking to test hypothesis 1 also. It does not require nondecisions but equally it does not require decisions. Compliance can be defined in a way that encompasses both. If A prefers that B not raise an issue and B does not raise an issue, we assume that B is complying with the wishes of A providing in matched control groups B does raise the issue created by the experiment.

C. The methodological problems of reciprocal power.

As outcomes of collective decision, nondecisions occur in settings in which many mutually dependent actors are in some kind of conflict over a policy outcome. (Call this n-person reciprocal power over policy outcomes.) The experiment in which we create an issue, although it involves 5-person groups, creates 2-person unilateral power over individual decisions to raise an issue or not. The reason for this is that hypotheses about anticipated reactions, inferred reactions, and aversion to uncertainty are symmetrical in any natural setting because in any natural setting B always has some power, if for no other reason than A's dependence on B's compliance. Power is not only relational, it is reciprocal (which is not the same thing). (Cf. Simmel, 1950, 181-186.) To focus only on what B anticipates of A is arbitrary: A anticipates B just as B anticipates A. (Cf. Dahl, 1957; March, 1955; Nagel, 1975; Simon,

1953.) A takes into account both how likely power is to succeed and the prospects of retaliation. It is therefore difficult in natural settings to disentangle causes. Is a president powerful whose veto has never been overridden by Congress? Or is he merely good at counting votes? (See Simon, 1953.)

Simon (1953) offered the possibility that one of A or B mistakenly infers reactions as a solution to the problems created by the reciprocity of power. This would permit one to decide who was changing whom. But the required level of isolation of A as the single cause of B's behavior is more easily achieved by creating unilateral dependence by experiment. While no such state exists in nature, objections to the resulting artificiality are like objecting to physical experiments because vacua or frictionless machines do not occur in nature. One cannot create a setting in which B has no resources even by experiment, but one can use confederates in A's role who do not care if B does or does not comply, hence do not depend on B at all. It is <u>only</u> by experiment that one can create an idealization like unilateral dependence but the simplification used by the experiment to realize the conditions of this idealization are the virtue, not the defect of the method.

We do not mean to argue that a rigorous solution to the problem of internal validity has no costs for external validity or that one can, would, or should, generalize from the results of the present experiment directly to n-person reciprocal power over policy outcomes. The more general question (of the relation of an

experimental test to "real" worlds) takes up more space than we can give it here, but the specific question of prospects for generalizing to n-person reciprocal power over policy outcomes will be taken up at the end of part ii. (On the more general question, see Zelditch, 1969; also, Zelditch, et al, 1983, 19-21.)

D. Experimental Procedures.

Subjects (S's) in this investigation were sixty-one male undergraduates who served as paid volunteers. The participants were told that they could earn an average of $12 for their participation in a study of social communication processes, and were in fact all paid $12. The setting consisted of five soundproofed rooms each equipped with a desk, chair, television monitor, signaling device, and a variety of message forms. When S's arrived at the laboratory, they each drew a colored chip which corresponded to one of the five rooms. The colors of the chips (red, yellow, blue, orange or green) were used to identify S's throughout the study. The orange chip was never included; "orange" was a confederate of the experimenter.

S's received video-taped instructions which indicated that they were members of a five-person team which would work a series of ten problems. The study was presented as an investigation of the process of communication and problem-solving in an organization whose members could not engage in face-to-face communication. It was explained that cooperation and accurate transmission of messages were necessary for any member of the group to correctly solve the

problems. As a consequence, what the team earned for solving a problem correctly was awarded to the team as a team. Each member of the group was required to submit an answer to the problem and the group was given 60 cents for each correct answer on each trial of the experiment. Group earnings were to be divided equally among group members at the end of the study in the control conditions, but were to be allocated by orange, the center of the communication network, in the two treatment conditions.

The task required the team members to construct a series of multi-arc graphs (cf. Faucheux and Mackenzie, 1966; Mackenzie, 1976). At the start of each trial each member of the group had information which corresponded to two lines of the solution graph. Successful completion of the task required that each member collect the information held by the other four members, assemble that information and send the solution to the experimenter's "office." All communication was restricted to written memoranda which were picked up and delivered by experimental assistants. A trial of the experiment was completed when the office had received an answer from all five members of the group.

Each group was assigned to a Bavelas (1950) "wheel" structure which consisted of a central position (always held by orange) linked to four peripheral positions by a symmetric channel of communication to each. All other channels of communication were closed. S's were instructed that the structure, which was the subject of the study, had been randomly chosen. It was never presented graphically but

was described in terms of a list of open and closed channels. S's were reminded that they had been randomly assigned to their positions in this structure and were alike in sex, age, and schooling.

S's were instructed that if for any reason they wished to change the structure they could rent additional channels of communication at a small cost (10 cents per channel per problem) but that all members had to share the costs of rented channels. It was therefore necessary for a majority of the group to agree before channels could be opened (or, after being opened, closed). The procedure for renting channels involved two stages: First, a member had to propose a specific agenda, i.e., a list of channels to be opened or closed. To come to a vote, this proposal had to be endorsed by one other member. If someone else seconded the proposal, E's staff would then go through the election procedure, with the proposed channels as the agenda. If the proposal won, the channels were opened and rental charges deducted from team earnings for the remaining trials of the experiment or until a new election was held. But in fact the experiment never got to that stage. If S submitted an agenda for election to any other member of his team the experiment stopped for that S, who was taken to a second room, interviewed and debriefed. Because all messages were pre-programmed by E, each S was in fact independent of any other S, hence all other S's could continue without any change in the experimental conditions until they either proposed a change or completed ten problems.

After one practice problem which assured that S's understood the procedures for completing the problems, and a short questionnaire, the host E appeared on S's television monitor and reported that the team had worked accurately but a little too slowly. In order to encourage faster performance, he announced a bonus of $3.00 for each problem to the person who first submitted the correct solution. S's were instructed that this bonus could not be divided.

The effect of this bonus was to give orange a significantly larger reward than any other member of the team. Because of orange's central position, all information had first to pass through him before any other member could solve the problem. Because S's had been led to believe that they all had equal abilities and could earn equal amounts the effect of the bonus was to create a significant inequity, as well as competitive pressures in what was otherwise a cooperative group task.

This inequity, together with the expected gain that might be earned if only S had an opportunity to win the bonus, created a strong pressure to change the structure of the group. If, for example, S changed to an all-all structure, which is the structure that would have done the most to equalize opportunity, it would have cost each S $1.08 if the change occurred at the end of the first trial, but the expected value of the change would be a total of $10.32 compared to $6.00 if S remained in the wheel, a gain of $4.32 after the cost of the change was paid. This gain changed, of

course, at each trial of the experiment -- the cost of the change decreasing by 12 cents per trial, the gain decreasing by 60 cents per trial, hence the net gain decreasing by 48 cents per trial. But even at the end of trial 9 there was still a gain (of 48 cents) from a change and, much more important, the equity pressure increased at each trial. The inequity, in fact, increased at the rate of 60 cents per trial. (That is, the difference between what one would have earned had opportunity been equal and what S did earn increased at 60 cents a trial, coming to $6.00 by the end of the experiment.) Worse, the difference between what orange earned and each other S earned increased at a rate of $3.00 per trial, coming to $30.00 by the tenth trial.

Countering this pressure to change, in two treatment conditions orange, the center of the wheel, had the right to allocate the team earnings as he saw fit at the end of the experiment. The resources available to orange (a total of $30.00) constituted his "potential power." If orange penalized S, S stood to lose at most $6.00 (10 x 60 cents per trial).

In one of these two treatments, S's were told that data from previous experiments showed that once in the orange position, the S in that position liked it and approved of the communication system so much that he almost never wanted to change it. In the other, S's were told that "so far we have found some people who like the position, because of the added responsibility and the more interesting task, but others who feel 'on the spot' and are very

uncomfortable with the position because they feel it unfair that they have the orange position when everyone is equal to start with." "Hence," the S's were told, "we have no idea just how often people feel one way or the other." The first condition is called the knowledge condition, the second the ignorance condition. In the baseline, or control, condition the team earnings were to be divided equally; nothing at all was said about orange's preferences.

Given these task and interaction conditions, the operational definition of (objective) potential power is the stock of resources at the disposal of orange (the team earnings). But perceived potential power is an unmeasured variable, which perhaps calls for some comment. It functions, in this experiment, like subjective-expected-utilities in SEU power experiments. The work of Tedeschi, et al, 1973, is typical of SEU practice: the predictions made are in fact only ordinal, hence require no more than the assumptions that people prefer more money to less (however different the value of money from one individual to another) and that the subjective probability of an event is a monotonically increasing function of its objective probability (typically untrue at the extremes but more or less true in the mid-range). Because S's are randomly allocated to treatments, the subjective values (of both money and probability) ought to distribute themselves around the objective values in roughly the same manner in all conditions. For ordinal predictions one therefore does not need the exact values, hence the objective value (in this case of money) is taken as a reasonable proxy for the

subjective value. Here we apply the same logic to perceived potential power. As for issueness, equality of opportunity is taken to be an issue in the group if and only if in the control group the members change its structure, and a proposal to change the group's structure, called a change-response (C-response) operationally defines the possible outcomes (positive and negative) of a metadecision. The results of the experiment are therefore inferred from the (trial by trial) distribution of C-responses, and the hypotheses we propose to test are that S's in both the knowledge and ignorance conditions will on the average complete more trials of the experiment than S's in the baseline condition. These hypotheses should be thought of as two independent tests, not as an ordering of the three conditions.

E. Inclusion of data and validity of manipulations.

There was a high rate of loss of S's in this experiment, due to the large number of conditions an S had to satisfy in order to test the hypotheses. Of a total of 84 S's run, 24 were excluded from the data, slightly over a fifth of all S's. Six S's were suspicious of the deception in the experiment; six were terminated for reasons other than proposing a change or completing 10 trials; and twelve violated one or more of the task or rental procedures. The "terminations" occurred either because S's delayed or because they sent false information two times during the experiment -- tactics exploiting the power of the peripheral position to prevent orange

from winning, but neither nondecisions nor agendas for decisions. The excluded S's were rather evenly divided among conditions: nine were lost in the baseline, seven in the knowledge, and eight in the ignorance conditions.

An important condition that the experimental treatments must satisfy if the conclusions are to be interpretable is that S's should believe that the bonus is inequitable to the same degree in all three conditions. We therefore checked post-session evaluations of the bonus and the wheel in several different ways. S's were asked how appropriate the bonus was, how justified the <u>amount</u> of the bonus was, and whether it was desirable to change the communication network in future studies. Finally, it was expected that private conformity would differ from public conformity, if it were power rather than influence at work in the experiment, and we therefore also asked if S had considered renting additional channels of communication during the study. The results of the first three questions are shown in Table 1.

TABLE 1. Perceptions of inequity by condition

Post-session questionnaire item	Mean Responses* Baseline	Knowledge	Ignorance
"How appropriate...is...a bonus?"	4.84	4.50	4.57
"How do you feel about the amount...?"	3.79	3.25	3.67
"How desirable...is (a) change...?"	1.95	2.45	2.19

* All responses were on a 5-point scale on which "1" was "high" and "5" was "low." There were no significant differences between the baseline and treatment responses for any item in any condition (using two-tailed t-tests).

No significant differences were found in subject attitudes towards the inequity of the bonus. Nor were there differences in private noncompliance; 95% of the S's considered renting in the baseline, 85% in the knowledge condition, and 81% in the ignorance condition (n.s.).

F. Results.

Left to themselves, S's in the baseline condition had almost all proposed an agenda for change by the third trial of the experiment. Forty-five percent had proposed a change by the end of the first trial; 70 per cent had proposed a change by the end of the second; 80 per cent had proposed a change by the end of the third. Only one S out of 20 completed all ten baseline trials. In the knowledge condition, on the other hand, less than half proposed a change by the end of the third trial and 30 per cent completed all

ten trials. In the ignorance condition too, less than half proposed a change by the end of the third trial and even more, 48 per cent, completed all ten trials. (See Table 2.)

TABLE 2. Percent of S's surviving at the end of each trial by condition.

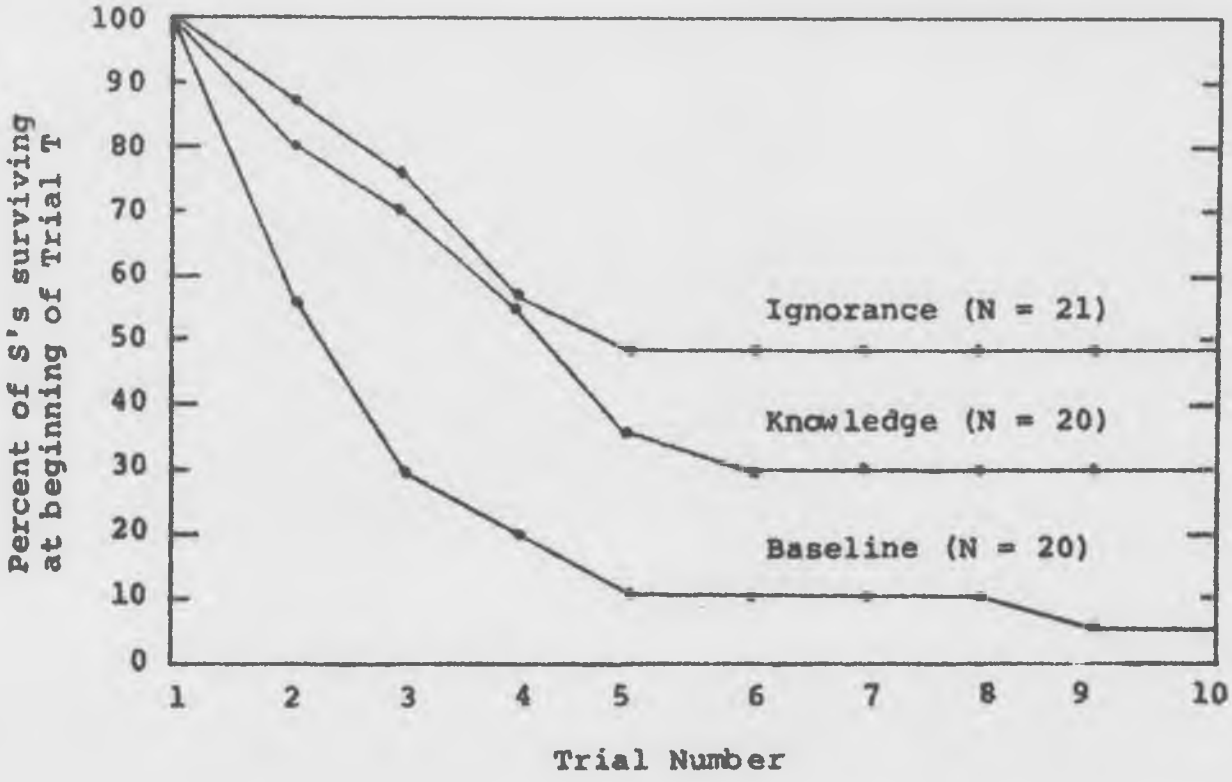
		Trial									
Condition	N	1	2	3	4	5	6	7	8	9	10
Baseline	20	55	30	20	10	10	10	10	5	5	5
Knowledge	20	80	70	55	35	30	30	30	30	30	30
Ignorance	21	86	76	57	48	48	48	48	48	48	48

The best representation of the experiment's data is the per cent of S's surviving at each trial, called the "survival" curve (Peto and Peto, 1972; Peto, et al, 1977). (See Figure 1.) The entire curve is used, and is the only sound basis for interpreting the experiment, because both the median and the mean are known to misrepresent the results. The observed number of proposed changes sometimes adequately represents the process. But even that is not always an adequate summary statistic because two curves can differ significantly, if change is later in one than the other, and still have the same probability of survival at trial 10.

The significance of the differences between two survival curves can be assessed by the logrank test (Peto and Peto, 1972; Peto, et

FIGURE 1.

A Comparison of Survival Curves for
Baseline, Knowledge and Uncertainty Conditions



al, 1977), the most powerful nonparametric test available for this kind of data. The essential idea of this test is that if the proportion terminating the experiment at each trial differs by condition, then the proportion "exposed to risk" on the next trial also differs by condition.

TABLE 3. Observed number, expected number, and relative rate of change-responses by condition.

Condition	N	Observed Number of Change Responses (O)	Extent of Exposure to Risk (E)	Relative Rate of Change (O/E)
Baseline	20	19	10.33	1.90
Knowledge	20	11	17.73	0.61
Ignorance	21	14	15.89	0.88
All	61	44	43.95	1.00

Hence, the expected values against which to assess observed change-responses change at each trial. The test computes these shifting expected values (using logs in a way that do not matter here) and the differences between observed and expected values are distributed approximately as chi square. The "extent of exposure to risk" in Table 3 is simply the expected value computed on a trial by trial basis as the number of survivors decreases.

TABLE 4. Logrank comparisons of knowledge and ignorance conditions with the baseline rate of change and with each other.

Comparisons	Logrank Statistics		
	Event Ratio*	Chi Square	Probability
Knowledge/baseline	0.46	4.57	p[.05
Ignorance/baseline	0.32	9.17	p[.001
Ignorance/knowledge	0.70	0.64	n.s.

* The event ratio is the ratio of two relative rates of change. Thus: 46% as much change took place in the knowledge as the baseline condition; hence, knowledge of the more powerful person's preferences prevented or delayed 54% of the change taking place in the baseline.

Associated with the logrank test is a summary statistic that estimates the magnitude as well as significance of an effect. The ratio of the observed to expected value of each condition gives the relative rate of change for that condition compared to the average for all S's. (See column 3 of Table 3.) Comparison of the relative rates of change between a treatment condition and the baseline gives a good idea of the relative rate of change in the treatment condition. This figure, called the event ratio, is shown in column 1 of Table 4.

The comparison of the relative rates of change of the knowledge and baseline conditions shows 46% as much change in the knowledge condition. Put slightly differently, knowledge of A's preferences prevented or delayed 54% of the change taking place in the baseline

(100% - 46%). The ignorance condition had about a third of the amount of change found in the baseline. Thus, ignorance prevented or delayed about two-thirds of the change taking place in the baseline.

Table 4 shows the significance of these differences in columns 2 and 3. There was significantly less change in both the knowledge and ignorance conditions than in the baseline. Knowledge, even without a reasonable objective basis for estimating the likelihood that orange will actually sanction S, substantially reduces proposals to change the wheel to some other structure. Given sufficient potential power in the hands of orange, subjects choose not to act even when they do not know orange's preferences.

The somewhat greater effect of the ignorance condition compared to knowledge, on the other hand, could well have occurred purely by chance. That ignorance produced 30 per cent less change than knowledge of orange's preferences is not a significant difference.

G. Further Evidence on the Inferences S makes from the Setting.

The results reported in section F support the view either that S's used orange's perceived power and interests to infer orange's preferences and the prospect of sanctions or, possibly, that they are averse to unknown risks implied in orange's power. Further evidence on what S's at least say they are doing in such settings is provided by a survey method in which S's were presented with

vignettes of situations simulating the experiment just described which were compared with vignettes of situations stripped of any cues from which inferences about A's preferences could be made. S's were asked to predict how they and others would behave in these situations and to say why. (See Ford and Zelditch, 1983.) All conditions were presented to all S's.

Two vignettes presented to S's in this survey are relevant here. One vignette described essentially the procedures of the previous experiment, although more briefly, and then presented problem 1 below. (The per cent of S's choosing each alternative is shown in parentheses.)

> Problem 1 (N = 83): You have no way of knowing whether the person allocating shares of the team earnings likes that position, or would want to stay in it, and, therefore, no way of knowing whether that person will use the power to withhold team earnings against anyone who attempts to change the set-up. Here are the two possible choices you could make:
>
> A. Leave the set-up as is for sure earnings of $6.00 (your share of group pay). (42%)
>
> B. Change things for an unknown probability of earning $12.00 and an unknown probability of gaining nothing. (58%)

About 6% more S's believe they would make a C-response than actually do in the experiment -- a very modest autonomy effect. Those who do not are more likely to say that they do nothing because they are certain of sanctions (34%) than say that they are uncertain but taking no chances (6%).

A second vignette described a group interview (of five candi-

dates) for admission to a graduate school that S was told to regard as his most preferred alternative. S was told that in the course of the interview,

> Problem 2 (N = 83): "...the interviewer asks a very specific question about how you would deal with an issue of great controversy in your field. You are familiar with both sides of the issue...but lean toward a particular point of view. You know that this question is being asked as some sort of test or selection mechanism. Naturally you want to appear to your best advantage...so you figure that you should answer the question first. This, however, is a gamble, as you have no idea how the interviewer feels about this particular topic and you feel that you have a better chance of being selected if your views do coincide. There is a traditional way of dealing with the problem, but you feel that your view, though less traditional, is better and is in fact the method of the future...".
>
> What would you do?
> A. ...propose the traditional point of view. (0%)
> B. ...propose my point of view. (70%)
> C. ...I would not be the first to speak. (30%)
>
> What do you think others would do...?
> A. Propose the traditional view. (1%)
> B. Propose their own view. (46%)
> C. Not be the first to speak. (53%)

Here, S's behavior shows a strong autonomy effect, but predictions about the behavior of others shows a slightly stronger aversion to unknown risks than problem 1 and also than the results described in section F. S's explained their own responses by needs for autonomy but explained others' behavior by strong needs for playing it safe.

H. Limits to the generality of the experiment's findings.

Potential power is a concept most often employed in macro-sociological arguments. Our experiment demonstrates its effects in interpersonal dyads. Can its results be extended to power in "macro" settings?

If by "macro" one means compositional effects (aggregating the behavior of A and B and generalizing it to n-person reciprocal power), it provides no evidence of the behavior of the composition but it does provide an essential component of it and in that sense is applicable in a macro argument. If by "macro" one means an increase in scale (for example a larger number of B's), there will certainly be a size effect but it is more likely to be on the magnitude than the form of the effect found in the experiment. But if by "macro" one means relations between collective as opposed to individual actors, the results may be inapplicable.

The question in extending our results to collectives turns essentially on whether or not collectives can be treated as unitary actors. The conception underlying the experiment is decision-theoretic: Actors are assumed to have goals and values, to assess outcomes in terms of these goals and values, to assess the probabilities that various alternative actions produce these outcomes. It is assumed that actors are pushed towards an action by the positive values and away from it by the negative values of its outcomes weighted by their probabilities (hence towards any action by a combination of its positive values and the negative values of

its alternatives). They are assumed to "maximize" the value of an alternative, i.e., to make the choice that leads to the most preferred outcome. It is this conception that leads to the idea that, under uncertainty, actors minimize the likelihood of worst possible outcome. These ideas can be extended from individual to collective actors providing one assumes collective actors are unitary or, at least, that their choices are based on a consistent preference function. This is, of course, the predominant tradition in organizational analysis and accounts for the ease with which organizational analysis extended Emerson's dyadic theory of interpersonal power to explain intra-organizational and even inter-organizational power. (Cf. Hickson, et al, 1971; Pfeffer and Salancik, 1978; Thompson, 1967.) Provan, et al, 1980, for example, in a study of inter-organizational power-dependence relations finds collectives that perceive potential power and obey the law of anticipated reactions. And the whole "resources mobilization" approach to collective action is based on the same foundations (hence is consistent with our results). (Cf. Gamson, 1975; Oberschall, 1973; Tilly, 1975; McCarthy and Zald, 1977.)

But a strong argument can be made that collectives are not unitary actors, they are coalitions of diverse interests (cf. Allison, 1971; Cyert and March, 1963; March, 1962; Simon, 1964). Parties to these coalitions are in conflict over goals and means. Hence, they do not have consistent (i.e., transitive) preference functions and they are only "loosely coupled": (Weick, 1976) -- they

do not have the imperatively controlled unity of will that bureaucratic theory attributes to them. If they do not, then they may or may not behave like our individual S's but even if they do our experiment is not adequate to prove it.

The whole argument is controversial and no definitive conclusion is possible at this time about whether it should displace the predominant tradition. If we simply take the view that some collectives are and some are not unitary actors, however, we must draw limits to the generality of our results at the point at which collectives are not unitary. It is, of course, possible that, for some other reason, organizations that are not unitary also nondecide under uncertainty. But this cannot easily be explained by any straightforward extension of our results.

III. What Does Potential Power Imply?

A. Problem.

Two of the more serious objections to a theory of potential power are that most such theories treat power as a unidimensional attribute, which is contrary to fact, or else imply that Santa Claus is powerful if B believes in him, an undesirable paradox. Both questions derive, in different ways, from a more basic question about the structure that lies behind acts of observable compliance. In part iii we study in some detail the implications of a concept of potential power to see if these objections are justified and what sense it makes to speak of something called a "power structure."

B. Does it make sense to talk about "power structures"?

A fundamental objective of any theory of power is to predict and explain unwilling compliance by B with the wishes of A. In accomplishing this objective, resources possessed by A play an essential role. A number of attempts to describe a "power structure" from this point of view have been made (Lynd and Lynd, 1937; Hunter, 1953; Mills, 1956). All of these treat power as if it were an attribute of A, i.e., as if one could meaningfully speak of how much power an actor A has, without reference to B. If power capacities are a unidimensional attribute it is natural to ask "Who has the power?" in a given community. The answer typically takes the form of a rank order of either individuals or groups that is referred to as "the power structure." "Power structures" in this sense have four properties: They are (relatively) permanent; their underlying basis is relatively general (i.e., does not vary from issue to issue); they are completely connected -- that is, for every pair of elements in the order it is possible to decide whether A is more powerful than B, B is more powerful than A, or the two are equally powerful; and the order is transitive -- if A is more powerful than B and B is more powerful than C, then A is more powerful than C.

This implication that power is a unidimensional attribute is felt to be undesirable because almost everyone else has argued

(correctly, in our view) that observable power is a multidimensional relation. The expression "A is powerful" is as meaningless as "10 is greater than." The "relation" that is meant is a three-predicate relation between A, B, and X. "Power relations" in this sense have quite different properties than "power structures": They are transient, issue-specific, incompletely connected, and intransitive. (See especially Dahl, 1957; 1958; Polsby, 1980.)

The derivation of these four properties depends first of all on the relations among the amount, domain, and scope of A's power and second of all on the relation between A's and B's utility for X and the outcome of contests between them over X.

For Dahl, Polsby, and many others, to talk about a "power structure" requires that one be able to compare the amount of power of A over B with respect to X to the amount of power of C over D with respect to Y. But the elements of a power relation vary independently of each other. How does one compare the power of the mayor of New York City with the power of the commanding officer of a small warship? There is no known transformation that carries the multidimensional vector (amount, scope, domain) into an acceptable scalar. Therefore, no one has found an acceptable method of comparing, for example, the power of the mayor of New York City even with his own council, the civil bureaucracy, banking interests, corporate interests, union, professional and other interests in the city. The only known solution to the problem of power-comparability is to hold constant two of the three dimensions while comparing the

third.

The explanation of observed compliance depends not only on the power of A over B but also on the utility of the act X to both A and B. The greater the disutility of X to B, the greater B's resistance. On the other hand, the greater the utility of B's compliance to A, the greater the likelihood that A exercises power over B and the more resources A is likely to commit to his purpose. But goal-comparability (i.e., A and B's utilities for various acts directed at various ends) is as difficult as power-comparability. The utility of X varies from B to D and therefore the conditions creating particular acts of compliance are incomparable from X to Y. Utility scales (supposing they exist) provide a common metric for comparing acts across actors but this metric does not allow comparing the power of A over B with respect to X with the power of C over D with respect to Y because it is unique only up to an order-preserving transformation. In plainer English, the scales for two different individuals will often have different units and different origins; hence often cannot be added across individuals. The same holds for the utility of X to A: Differences in utility between X and Y mean that one cannot infer anything about the future prospect of A's power over B from the outcome of any past conflict over X. If A won, X may have been more important to A than to B. With respect to some other issue, say Y, the outcome could be reversed if Y mattered to B more than it did to A. (Bachrach and Baratz, 1962; Gamson, 1968; Kornberg and Perry, 1966; Mills, 1956.)

Such power and goal incomparabilities lead one to see observed power in terms of transient acts. The underlying basis of such acts is issue-specific. Actors are only partially-ordered: That is, comparing two relations (A, B, X) and (C, D, Y), one sometimes cannot decide whether A is more powerful than C, C is more powerful than A, or that the two are equal. Connected relations, if they exist, are sometimes intransitive. That is, that A is more powerful than B and B more powerful than C does not imply that A is more powerful than C.

But it is not the concept of potential power itself that leads the Lynds, Mills, Hunter, and others to treat power as a unidimensional attribute and power structures as connected and transitive orders. At the level of acts of observable compliance, potential power has the same properties as actual power.

Not even the counting of objective, observer-defined, resources is unidimensional. There is no known method of defining a common metric that permits adding different kinds of resources, no method of combining the wealth of the rich, the monopoly of corporations, the patronage of parties, the command of armies. Power as a unidimensional attribute would make sense if and only if there were exactly one resource (say money or ownership of the means of production), an absurd limit, or all resources were perfectly inter-correlated, an entirely separate (and unwarranted) assumption.

But resources are in any case not objective. A resource is a state or object that is instrumental to some actor's goals. It

gives rise to power if A controls resources on which B depends. The amount of A's resources depends both on what A possesses and on how badly B wants what A has. Countercultures rob universities of the power to control sit-ins by threatening their students with expulsion. Total commitment to a cause robs civil governments of the power to control terrorism by threats of death. If B has no goals, A has no resources; and what resources A has depends on what it is that B wants.

The p-centricity of resources (i.e., their dependence on the actor) implies first of all that potential power is a relation in the same sense as actual power and secondly that the relation is multi-dimensional. The amount of A's power over B depends on B, not only on A (implying the independence of the domain and amount of power). The importance of B's beliefs about what A could do has the same implication: A's power depends on B, hence the amount and domain of power are separate dimensions. And, although a theory of potential power can neglect the intensity of A's preferences (as implied by hypothesis 2 in part ii), it still requires the intensity of A's preferences to predict actual behavior. It is important to keep in mind that in a theory of potential power, potential power is only one of the factors that explain behavior. The amount of A's power over B, in any observable instance, still depends on X as well as on B (implying the independence of the scope and amount of A's power).

Nevertheless, it is true that it makes more sense to talk about

"power structures" in a theory of potential than actual power. This is because a theory of potential power, unlike a theory of actual power, distinguishes between observable phenomena and its underlying structure. A theory of actual power is a theory at one level, acts. A theory of potential power works at two levels, acts and relations. It is this difference, not the dimensionality of relations, that makes it more natural to talk about "structure" in a potential power theory. Underlying structure is conceptualized in terms of power-dependence relations (as, for example, in Emerson, 1962; 1972). Observed compliance (in either kind of theory) is an act-by-act phenomenon that is transient, issue-specific, incompletely connected, and intransitive. In describing it (in either theory) the idea of "structure" is illusory (cf. Polsby, 1980). Observed compliance only imperfectly reflects its underlying structure because it depends in part on potential power and in part on the utility of X to A and to B. Power-dependence relations, although they vary with the utility of A's resources to B and the number of alternatives available to B, do not depend on X. They are therefore more general (i.e., not issue-specific) and stable than observable compliance. In describing them the idea of "structure" is perfectly sensible.

There is nothing very deep about this: All it means is that the resources of A have the same utility for B no matter what it is that A wants B to do. What B actually does depends partly on his dependence on A, partly on the disutility of X to B, and sometimes

on the intensity of A's preferences for X. Power-dependence relations, on the other hand, depend only on the amount, perceived value, and concentration of resources. They are more general than acts because they are not issue-specific, more stable because they do not depend on the utility of X. The stability of power-dependence relations is only relative: It varies with B's goals, B's alternatives, and A's stock of resources, all of which can and do change. But if one were to model power at both levels (acts and relations), compliance would be a variable but dependency would appear as a path-coefficient (measuring the rate of change in B's compliance caused by a unit change in the intensity of A's preferences). (See Alker, 1973; Harsanyi, 1962; Nagel, 1975.) It is only in this sense that it is (relatively) constant.

Because power-dependence relations are relatively stable and general, they naturally give rise to talk of "structure" even though, like acts, systems of them may be only partially-ordered. In such theories, power "exists" whether or not its exercise, or even compliance with it, is observed. Such stable, issue-free elements make natural units for building up more complex, larger systems of relations. (Cf. Cook and Emerson, 1978.) Such larger systems are not necessarily completely connected or transitive. Resources distributed in them are not necessarily cumulative (as opposed to dispersed) (Dahl, 1961). They are no more unidimensional than acts. But such relations can be joined to each other, built into larger systems of relations, and spoken of in "structural"

terms without pure solecism. It also makes sense to speak of them as having "structural" effects: The sheer distribution of resources produces consequences out of all proportion to their use, the intentions of power-holders, or awareness of their effects. Many males are shocked that some females feel oppressed; they are not aware of doing or intending anything oppressive. Many males don't: But the distribution of resources itself is capable of producing effects without regard to the motives of those who control them.

C. The Paradox of False Beliefs.

The structural effects just referred to arise from perceived, not objective, potential power. What if the perception is false? Suppose B believes in Santa Claus and does X because he believes Santa Claus prefers it. Do we want to attribute power to someone who does not exist? Suppose B is paranoid and becomes reclusive out of fear of assault by neighbors who are not even aware B exists. Do we want to attribute power to people who are not even aware of B simply because B believes in their threat? Suppose the number of people who believe in the internal communist threat is large. Are we required to say that the Communist Party of the United States has power? (Cf. Dahl, 1957; March, 1955; Nagel, 1975, ch. 2.)

The paradox of false belief (sometimes known as the "Santa Claus Paradox") is an obviously undesirable property for a theory to have. It is a close cousin of spurious power, which argues that a child at an intersection has power if oncoming traffic stops because

he commands it to halt at the same moment that the traffic light changes to red (Dahl, 1957). Inferences from false belief will be spurious in the same sense, mistaking the causes of B's behavior for power where there is no power.

But the paradox arises only if perceived power is used in an atheoretical, ad hoc way, i.e., as an isolated hypothesis instead of as part of a theory (a systematically inter-related set of concepts and propositions). Ad hoc explanation is not logically impossible but it frequently leads an observer to commit nonsense. The solution of the paradox is to keep in mind, exactly as one must in relating observed compliance to power-dependence relations, that perceived potential power is one variable in a larger system of variables that jointly explain compliance. The relation between objective and subjective potential power is part of this theory. (See, for example, Bacharach and Lawler, 1976; Lawler and Bacharach, 1979.) No one is in danger of inferring spurious power from false belief if this kind of theory displaces ad hoc explanations of power. If the ways in which objective power affect perceived potential power are part of the theory, the effects of false belief are clearly identified as spurious. This does not rid us of the effects of paranoia and superstition. All it does is treat it as idiosyncratic variation in amounts of power, as noise absorbed by residual error. But this will be unacceptable only if false beliefs have large, systematic, and correlated effects, which no one has claimed for them.

FOOTNOTES

1. This paper is entirely concerned with the power of A over B, or what is sometimes called "micro" or "interpersonal" power, as distinct from "macro" power, the capacity of an organized group to assemble resources for the pursuit of group goals. (On the latter, see Hawley, 1963; Parsons, 1963.) This does not mean that we believe macro power (in this sense) is unimportant or that it is not power (even though it depends crucially on authority which in the present paper we distinguish from unwilling compliance, which we identify with "power"). The relation between the two kinds of power is discussed in Gamson, 1968 and Zelditch and Walker, 1984.

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